

# Claims

- [c1] 1.A system for accessing a plurality of devices using a single bus, comprising:  
a first device;  
a second device;  
a shared bus, coupled to the first device;  
a bus isolator, coupled to the shared bus and the second bus for isolating the second device from the shared bus or connecting the second device to the shared bus; and  
a control apparatus coupled to the shared bus so that the bus isolator isolates the second device from the shared bus when the control apparatus needs to access the first device and the bus isolator connects the second device with the shared bus when the control apparatus needs to access the second device.
- [c2] 2.The system of claim 1, wherein the control apparatus further comprises:  
a bus exchanger, coupled to the shared bus for switching the authority for the shared bus between different devices; and  
a bus arbitrator, coupled to the bus exchanger so that the bus arbitrator controls the bus exchanger to connect

the shared bus with a circuit internally linked to the first device when the control apparatus needs to access the first device and the bus arbitrator controls the bus exchanger to connect the shared bus with a circuit internally linked to the second device when the control apparatus needs to access the second device.

- [c3] 3.The system of claim 2, wherein a pre-defined isolation period must pass before the bus exchanger is permitted to switch the device for authority for the shared bus.
- [c4] 4.The system of claim 1, wherein the second device comprises a memory card compatible device.
- [c5] 5.The system of claim 4, wherein the memory card compatible device is either a memory card or a card reader.
- [c6] 6.The system of claim 1, wherein the first device comprises a memory device.
- [c7] 7.A control apparatus for accessing a plurality of devices through a single bus, the control apparatus connects to a first device through a shared bus and the control apparatus also connects to a second device through the shared bus and a bus isolator, the control apparatus comprising:  
a bus exchanger, coupled to the shared bus for switching the authority of device for the shared bus; and

temptempa bus arbitrator coupled to the bus exchanger such that the bus arbitrator controls the bus exchanger to connect with a circuit internally linked to the first device and to activate the bus isolator to isolate the second device from the shared bus when the control apparatus needs to access the first device and the bus arbitrator controls the bus exchanger to connect with a circuit internally linked related to the second device when the control apparatus needs to access the first device.

[c8] 8.The control apparatus of claim 7, wherein the bus exchanger is set to wait for the passage of a pre-defined isolation period lasting from the end of accessing the first device to the start of accessing the second device before switching the control of the shared bus from the first device to the second device.

[c9] 9.The control apparatus of claim 7, wherein the second device comprises a memory compatible device.

[c10] 10.The control apparatus of claim 7, wherein the memory compatible device is either a memory card or a card reader.

[c11] 11.The control apparatus of claim 7, wherein the first device comprises a memory unit.

[c12] 12.A system for accessing a plurality of devices through a

single bus, comprising:

a memory unit;

a memory card compatible device;

a shared bus, coupled to the memory unit; and

a control apparatus coupled to the shared bus such that the control apparatus controls the shared bus to connect with a circuit internally linked to the first device when the control apparatus needs to access the first device and the control apparatus controls the shared bus to connect with a circuit internally linked to the second device when the control apparatus needs to access the second device.

[c13] 13.The system of claim 12, wherein a pre-defined isolation period must pass before the control apparatus is permitted to access the second device through the shared bus.

[c14] 14.The system of claim 12, wherein the memory card compatible device is either a memory card or a card reader.

[c15] 15.The system of claim 12, wherein the memory unit comprises read-only memory.